SEQUENCE-PRESERVING DEEP-PACKET PROCESSING IN A MULTIPROCESSOR SYSTEM

Abstract of the Disclosure

Packets or frames of data may be compressed, encrypted/decrypted, filtered, classified,

5   searched or subjected to other deep-packet processing operations before being distributed

through the internet. The microprocessor system and method of the present invention provide

for the orderly processing of such data packets without disrupting or changing the sequence in

which the data is intended to be transmitted to its destination. This is achieved by receiving

frames into an input buffer for processing. Associated with this input buffer is a unit for

10   determining the operation to be performed on each frame. An arbitrator assigns each frame to

a processing core engine. An output buffer collects the processed frames, and a sequencer

forwards the processed frames from the output buffer to their destination in the same order as

received by the input/output buffer. Maintaining the sequence of data transmission is

particularly useful in voice transmission, such as videos and movies.

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